

II. Amendments to the Specification

1. Please replace prior paragraph [0017] with the following new paragraph:

[0017] Each of the plurality of antenna nodes 30 communicates through one of the LCC subplates 50a through 50d with a central processor or electronic control unit 60 that combines the incoming signals, calculates deviations among the signals due to differences in the location and direction of the antenna nodes, and sends control signals back to the antenna nodes 30 allowing the plate 46 supporting the phased array 40 to be re-directed or re-pointed that allow the timing or delay of some or all of the antenna nodes 30 to be adjusted relative to the others to obtain a synchronized condition among the antenna nodes 30, thus allowing them to process signals in which the phase is synchronized. Use of light channel technology to form the substrate subplates 50a through 50d makes the preferred embodiment of the inventive antenna system 10 light weight and portable.

2. Please replace prior paragraph [0021] with the following new paragraph:

[0021] Referring now to FIG. 5 and FIG 6, each of the antenna nodes 30 communicates with the main electronic control unit 60 through the optically transparent plate 46. Power is supplied by means of conductive traces or conductors 70 that are routed from each of the antenna nodes 30 to an interconnect pad 71. Each of the interconnect

pads 71 is connected to a duplicate interconnect pad 72 on the under side of the LCC subplate 50a through 50d by means of a copper plated through hole 73. The duplicate interconnect pads 72 are in turn each connected to one of a plurality of conductor pads 80 embedded in the housing of the electronic control unit 60 using any one of the many known methods of interconnection, such as by way of example, connectors or press fit pins, thereby completing a communications path from each of the antenna nodes 30 to the electronic control unit 60 that processes the signal data. The electronic control unit 60 is located and secured to the collapsible support stand 20 through means of a central locator pin 94 that mates with a central alignment hole 95 in the housing of the electronic control unit 60

3. Please replace prior paragraph [0022] with the following new paragraph:

[0022] Also shown in FIG 5 is an emitter/transmitter LED 90 that transmits signals from the electronic control unit 60 to the plurality of antenna nodes 30 that form the phased array 40. Conversely, photoreceptors or other receiver devices LEDs 91 receive signals from the plurality of antenna nodes 30 in the phased array 40 and convey these signals to the electronic control unit 60.

4. Please replace prior paragraph [0024] with the following new paragraph:

[0024] Referring now to FIG. 7, each of the receiving node electronics 100 consists of a dipole element 110 attached to a low noise amplifier 120, which in turn feeds a programmable phase delay element 130. The

output of the phase delay element 130 modules the output of a light emitting or laser diode 140 that is coupled to the LCC material of the subplate 50. The light is gathered and combined at the receiver LEDs or diodes devices 91, which couple the signal to detector/demodulation circuits within the electronic control unit 60. The electronic control unit 60 processes the signal to produce the resultant broadband signal.

5. Please replace prior paragraph [0025] with the following new paragraph:

[0025] A local processor 170 within the receiving node electronics 100 receives signals from the electronics control unit 60 via a pin 160 within the receiving node electronics 100. The local processor 170 calculates the appropriate delays for the dipole element 110 and modulates an LED/transceiver to send that information back to the appropriate antenna nodes 30 in the phased array 40 in order to ~~"point"~~adjust the delay of each of the antenna nodes 30 as needed to achieve synchronization of the phased array 40. The adjustment in the angle of the phased array 40 ~~delay of the antenna nodes 30~~ is controlled by microprocessor controlled phase delay lines contained in the electronic control unit 60. ~~Alternatively, the means to control of the angle of the phased array 40 could be contained in or affixed to the collapsible support stand 20.~~

III. Amendments to the Claims

1. (Original) An apparatus for receiving communication signals from satellites, comprising: